There are in *Virginia* a great many Cormorants; ſeveral ſorts of Gulls, and in about the Bay many Bannets.

Thus much for the Birds.

Yours, &c.

II. *Some Queries concerning the Nature of Light, and Diaphanous Bodies. Propoſed to the Royal Society by* E. Halley.

THE late Curious Book of Mr. *Hugen's* having revived the Diſquiſitions that have formerly been made about the Nature and Phænomena of Light, I thought it not amiſs to propoſe ſome Difficulties that have occurr'd to my Thoughts upon this Subject, by way of Query: Which may perhaps not ſeem unworthy of the Conſideration of this Honourable Aſſembly, *viz.*

1. In what conſiſts the Tranſparency of Glaſs, Chryſtal, Water, *&c.* And whether the Notion of *right Pores* be enough to anſwer all the Appearances of it, eſpecially thoſe of Refraction, and of the Tranſparency of Bodies in all Poſitions; whereas the Rectitude of Pores ſeems to argue an orderly or regular Poſition of the conſtituent Parts, according to the three Dimenſions?

2. Why in Bodies that have much more Pores than Glaſs or Water; as Deal-ſhavings or brown Paper, the Paſſage of Light is wholly obſtructed, though ſeveral groſs Particles will penetrate them?

3. Whether or no the Light is eaſier propagated through Glaſs, Water, *&c.* than Air or Æther, as *des Cartes* and Mr. *Hook* have maintained; and wherein Mr. *Hugens* differs from them, aſſerting that the Beams

of

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of Light are retarded in paſſing thoſe Diaphanous Bodies; and thereby ſo naturally explicating the Laws of Refraction?

4. Suppoſing Light to be propagated in a Wave, how it comes to paſs that this Propagation being either retarded or accelerated in a Diaphanous Body, as Glaſs, &c. does, upon its going out of that *Medium*, acquire again the ſame degree of Velocity it had before it came on, there being no new impulſe or impediment to alter the Velocity it had in the other *Medium*?

5. Why *Mercury* being ſo pure, ſimple and homogeneous a Fluid, is almoſt the only one that is not tranſparent?

6. Whether the Reflexion of Light on the Surfaces of Glaſs, Water, and the Shade of the moſt perfect Pellucid being always very diſcernable, be not Arguments that the Beams paſs their *Media* with more difficulty than they do the Air?

7. Whether any Texture of Atoms of the ſame *materia Prima* can be ſuppoſed to anſwer to the *Phænomena* of the Pellucidity of heavy and Opacity of light Bodies?

8. Whether, if light (as it is moſt likely) be a Tremour, Shake, or Undulation of the Æther, as Sound is of the Air; and if the Æther do conſiſt of ſo rarified Parts, as to penetrate all Bodies with full liberty, as is generally ſuppoſed; moſt if not all Bodies ought not to be tranſparent?

9. Whether the Matter of the Univerſe be not of ſeveral Kinds in *Minimis*, and not conſtituted by the various Texture and Coalition of the ſame ſort of Atoms, as it has been held by the *Epicurean* and *Atomical Philoſophers*, which at preſent obtain in the World.